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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/526,091 03/15/00 WACH

M 06948.105009

MM91/1024

KING & SPALDING
191 PEACHTREE STREET, N.E.
45TH FLOOR
ATLANTA GA 30303

EXAMINER

LEE, J

ART UNIT

PAPER NUMBER

2874

DATE MAILED:

10/24/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/526,091

Applicant(s)
Michael L. Wach

Examiner
John D. Lee

Art Unit
2874



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-40 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-9, 11, 13-23, and 26-40 is/are rejected.
- 7) ☒ Claim(s) 10, 12, 24, and 25 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Mar 15, 2000 is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

The drawings are objected to because in Figure 10, reference number "100" should be "1000" in order to correspond with the specification (page 19). Also, the right-hand margins for Figures 10, 17, 22, 23, and 24 (i.e. sheets 6, 9, 12, and 13) are inadequate. Correction is required. New formal drawings must be filed (with the changes incorporated therein) within the **THREE MONTH** shortened statutory period set for reply to this letter.

Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

The preliminary amendment filed on November 20, 2000, has been entered. Original claims 1-6 have been canceled. Claims 7-40 are pending. An action on the pending claims follows.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 8, 14, 15, 21-23, and 26 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 5,974,207 to Aksyuk et al. Aksyuk et al discloses a cross-connect waveguide system

with a diverting element (switch) for feeding first light energy at a predetermined wavelength having first information content away from a planar waveguide circuit, and for feeding second light energy at the predetermined wavelength having second information content into the planar waveguide circuit. As can be seen in the reference, many embodiments utilize a double-sided mirror as the diverting element. The Aksyuk et al system can be used to connect two or more networks together, and can be used to exchange (add/drop) light energy of different wavelengths between the networks.

Claims 9, 11, 13, 16-20, and 27-40 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,974,207 to Aksyuk et al. Although the Aksyuk et al reference mentions the diverting elements (switches) being "placed" into certain conditions, there is no explicit disclosure of remote configuration thereof. This is highly likely, however, since systems like that of Aksyuk et al are generally placed in hard-to-access locations. To the person of ordinary skill in the art, then, the remote configuration of the diverting elements (switches) of Aksyuk et al would certainly have been obvious. Similarly, although the diverting elements (switches) of Aksyuk et al appear to be electrically controlled, the use of optically controlled switches would have been obvious, not only because optically controlled switches are well known in the art, but also because of the otherwise all-optical nature of the cross-connect system. If optically controlled diverting elements (switches) were used, sampling or monitoring the light energy impinging on the diverting element (as, for example, with a beam splitter) would be the most obvious way of determining the desired control. The person of ordinary skill would understand that any readily detected property of the light (power, wavelength, etc.) could obviously be used as the basis for control. The filtering devices which feed/receive the various light wavelength components into/from the planar lightguide

circuits of Aksyuk et al are not well described. A variety of such filters are known in the art, however (thin-film dielectric interference filters, rugate filters, tunable filters, etc.), so that the use of any particular filtering devices in the reference system would have been obvious. Specific numeric values for packing density of the filtering devices would depend upon the design for a particular system application, and those values would thus have been obvious design choices. The materials of which the planar lightguide circuits are made are not essential to the Aksyuk et al disclosure, and the choice of any known suitable material (silica, plastic, etchable materials, photolithographic materials, etc.) would have been obvious to a person of ordinary skill. No operating wavelength range is given by Aksyuk et al, but the reference does indicate optical communication wavelengths (in general). Known and used optical communication wavelengths include the 1310 nanometer wavelength region and the 1550 nanometer wavelength region. Other obvious design considerations which are not addressed by Aksyuk et al include channel spacing values, as well as filter transmission and blocking levels. These considerations would have been routinely evaluated during the design for a particular system application.

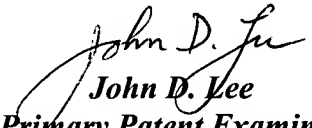
Claims 10, 12, 24, and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Neither Aksyuk et al nor any other prior art of record discloses or reasonably suggests a cross-connect waveguide system with a diverting element for feeding first light energy at a predetermined wavelength having first information content away from a planar waveguide circuit, and for feeding second light energy at the predetermined wavelength having second information content into the planar waveguide circuit, wherein the diverting element is

controlled with optically encoded information or by address headers of light energy containing configuration instructions.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 6,219,474 to Cai et al describes a cross-connect waveguide system that is quite similar to that claimed by applicant (see Figure 7), but the effective date of this reference is later than applicant's claimed domestic priority date.

The prior art documents submitted by applicant in the Information Disclosure Statement filed on November 20, 2000, have all been considered and made of record (note the attached copy of form PTO-1449).

Any inquiry concerning the merits of this communication should be directed to Examiner John D. Lee at telephone number (703) 308-4886. The Examiner's normal work schedule is Tuesday through Friday, 6:30 AM to 5:00 PM. Any inquiry of a general or clerical nature (i.e. a request for a missing form or paper, etc.) should be directed to the Technology Center 2800 receptionist at telephone number (703) 308-0956, to the technical support staff supervisor (Team 2) at telephone number (703) 308-3072, or to the Technology Center 2800 Customer Service Office at telephone number (703) 306-3329.


John D. Lee
Primary Patent Examiner
Group Art Unit 2874